

REMARKS

By this response, Applicants have amended claims 1 and 16. As a result, claims 1-20 remain pending in this application. Reconsideration in view of the following remarks is respectfully requested.

In the Office Action, claims 11-15 are allowed. Applicants thank the Examiner for the indication of allowable subject matter.

However, the Office rejects claims 1-10 and 16-20 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2002/0045272 (McDevitt) in view of U.S. Patent Application Publication No. 2003/0132392 (Kuroda). In order to establish a *prima facie* case of obviousness, the Office must show that (1) every feature is taught or suggested by McDevitt and/or Kuroda; (2) McDevitt, Kuroda, or generally available knowledge suggests or motivates the modification(s); and (3) one would have a reasonable expectation of success. MPEP 2143. Because the Office fails to establish a *prima facie* case of obviousness, Applicants respectfully request withdrawal of the rejections of claims 1-10 and 16-20 for the following reasons.

With respect to claim 1, the Office alleges that McDevitt discloses the claimed electrical contact. In support of this conclusion, the Office cites the hydrophobic segment 1032 of Fig. 73 of McDevitt. Initially, interpreting McDevitt only for the purposes of this response, Applicants note that hydrophobic segments 1032 and hydrophilic material 1034 comprise parts of "a system that relies on variations in the surface wetting characteristics of a channel" to transfer fluids. (Paragraph 533). In particular, a series of hydrophobic segments 1032 are applied to a surface of a channel, while a layer of hydrophilic material 1034 is placed on the opposite surface of the

channel. (Paragraph 537). In operation, “[w]hen an aqueous fluid sample is introduced into the channel, the water is attracted toward the hydrophilic layer while being repelled by the hydrophobic layer. This attraction/repulsion creates a current within the channel.” (Paragraph 537). In this manner, the fluid is moved using a “system [that] may be ‘passive’ (i.e., no external power source or components).” (Paragraph 533).

In sharp contrast, Applicants’ claimed invention comprises a semiconductor device that includes an electrical contact. To this extent, in operation of the semiconductor device, the electrical contact comprises a junction through which an electrical current can pass. To the contrary, as noted above, McDevitt expressly states that one of the benefits of the hydrophobic segments 1032 is an ability to move fluid without the need for an external power source. Applicants note that the movement of fluid without the use of an external power source and the passing of electrical current are two unrelated functions. As a result, Applicants submit that the hydrophobic segments 1032 of McDevitt do not teach or suggest the claimed electrical contact.

With further respect to claim 1, the Office notes that McDevitt fails to disclose the claimed at least one perforation in at least one of the contact and a second layer disposed between the sensing layer and the contact. However, the Office cites Kuroda as allegedly disclosing this feature. The Office then modifies McDevitt based on Kuroda to allegedly arrive at Applicants’ claimed invention.

The Office errs in its reasoning in several respects. For example, interpreting McDevitt and Kuroda only for the purposes of this response, Applicants note that McDevitt provides a system for the rapid characterization of multi-analyte fluids. (Abstract). In McDevitt, a series of chemically sensitive particles produce a signal when a receptor coupled to the particle interacts

with the analyte. (Abstract). The analytes may be characterized using pattern recognition techniques. (Abstract). In sharp contrast, Kuroda provides a sensor device that includes a plurality of openings, each of which includes sensor material positioned on its inner surface. (Paragraphs 29-30). Kuroda's device senses a chemical based on changes in the position and height of the resonance peak of light transmitted through the device. (Paragraphs 33-39). To this extent, McDevitt and Kuroda provide detection devices whose operation are substantially different and unrelated (i.e., measuring changes to signals produced by chemically sensitive particles in McDevitt vs. measuring changes to light in Kuroda). Further, the location and configuration of the sensor material in both devices is different (i.e., particle within a cavity over which fluid passes in McDevitt vs. a sensor material positioned on an inner surface of an opening through which light passes in Kuroda). As a result, Applicants submit that the combination of McDevitt and Kuroda is improper.

Further, the Office apparently proposes to modify the hydrophobic segments 1032 of McDevitt to include the openings of Kuroda. In support of this modification, the Office states that one would be motivated "in order to have a higher accuracy semiconductor device to be used in sensor applications." (Page 3 of Office Action). However, nothing in McDevitt or Kuroda suggests that a higher accuracy in measuring changes to signals produced by chemically sensitive particles in McDevitt's device would be achieved by including the openings found in Kuroda in McDevitt's hydrophobic segments 1032. In fact, as discussed above, McDevitt's hydrophobic segments 1032 serve to move fluid through the system and are otherwise unrelated to the characterization of multi-analyte fluids. In view of the unrelated purpose for the openings in Kuroda's device in relation to the movement of fluids in McDevitt's system, nothing would

motivate one to look to Kuroda to improve the accuracy of the McDevitt system. Further, one would not have a reasonable expectation that such a combination would succeed in providing the desired functionality, let alone improving the accuracy of the McDevitt system. As a result, Applicants submit that the motivation cited by the Office is improper since it is not supported by the teachings of either reference.

In light of the above reasons, Applicants respectfully request withdrawal of the rejection of claim 1 and claims 2-10, which depend therefrom, as allegedly being unpatentable over McDevitt in view of Kuroda.

With respect to claim 16, Applicants note that the Office similarly uses McDevitt as modified by Kuroda to allege that Applicants' claimed electrical contact that includes at least one perforation to expose a sensing layer to the medium would have been obvious. To this extent, Applicants herein incorporate the arguments presented above with respect to the Office's interpretation of McDevitt and modification of McDevitt using Kuroda. As a result, Applicants respectfully request withdrawal of the rejection of claim 16 and claims 17-20, which depend therefrom, as allegedly being unpatentable over McDevitt in view of Kuroda.

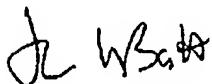
Applicants submit that each of the pending claims is patentable for one or more additional unique features. To this extent, Applicants do not acquiesce to the Office's interpretation of the claimed subject matter or the references used in rejecting the claimed subject matter. These features have not been separately addressed herein for brevity. However, Applicants reserve the right to present such arguments in a later response should one be necessary.

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In light of the above, Applicants respectfully submit that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the number listed below.

Respectfully submitted,



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